



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification 5 :</b> <b>A61K 7/032</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 92/19215</b> <b>(43) International Publication Date:</b> 12 November 1992 (12.11.92)
<b>(21) International Application Number:</b> PCT/US92/02964 <b>(22) International Filing Date:</b> 13 April 1992 (13.04.92)  <b>(30) Priority data:</b> 691,943                      26 April 1991 (26.04.91)                      US  <b>(71) Applicant:</b> THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US).  <b>(72) Inventors:</b> OUNANIAN, Hovig, Ohannes ; 906 Delray Drive, Forest Hill, MD 21050 (US). GEDEON, Harvey ; 11 Gloria Drive, Allendale, NJ 07401 (US). DISOMMA, Joseph, Anthony ; 16 Thornhill Drive, Ramsey, NJ 07446 (US). JOSE, Natividad ; 84-35 Lander Street, Jamaica, NY 11435 (US).	<b>(74) Agent:</b> REED, T., David; The Procter & Gamble Company, Ivorydale Technical Center, 5299 Spring Grove Avenue, Cincinnati, OH 45217-1087 (US).  <b>(81) Designated States:</b> AT (European patent), AU, BE (European patent), BR, CA, CH (European patent), DE (European patent), DK (European patent), ES (European patent), FR (European patent), GB (European patent), GR (European patent), IT (European patent), JP, LU (European patent), MC (European patent), NL (European patent), SE (European patent).  <b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	
<b>(54) Title:</b> COSMETIC WATERPROOFING COMPOSITION  <b>(57) Abstract</b>  The invention is directed to a cosmetic waterproofing composition comprising about 5 - 85 % of a volatile mineral spirit, about 0.7 - 2.1 % gellant, about 1 - 50 % of primary film former, and about 5 - 25 % of a solvent oil. The invention is also directed to a method for waterproofing skin, hair or eyelashes using the composition of the invention.		

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	ES	Spain	MG	Madagascar
AU	Australia	FI	Finland	ML	Mali
BB	Bahamas	FR	France	MN	Mongolia
BE	Belgium	GA	Gabon	MR	Mauritania
BF	Burkina Faso	GB	United Kingdom	MW	Malawi
BG	Bulgaria	GN	Guinea	NL	Netherlands
BJ	Benin	GR	Greece	NO	Norway
BR	Brazil	HU	Hungary	PL	Poland
CA	Canada	IT	Italy	RO	Romania
CF	Central African Republic	JP	Japan	SD	Sudan
CG	Congo	KP	Democratic People's Republic of Korea	SE	Sweden
CH	Switzerland	KR	Republic of Korea	SN	Senegal
CI	Côte d'Ivoire	LJ	Liechtenstein	SU	Soviet Union
CM	Cameroon	LK	Sri Lanka	TD	Chad
CS	Czechoslovakia	LU	Luxembourg	TC	Togo
DE	Germany	MC	Monaco	US	United States of America
DK	Denmark				

- 1 -

## COSMETIC WATERPROOFING COMPOSITION

Technical Field

The invention is in the field of cosmetic compositions used to waterproof hair, skin, or eyelashes.

Background of the Invention

Mascara is one of the oldest cosmetics known to man, having been used since Biblical times. Mascara accentuates the eyelashes, thereby making the eyes more pronounced. Early mascaras were pressed cakes comprised of soap and pigments. Cream mascara evolved next, which is a softer, creamier version which allows for the composition to be filled into tubes. Cream mascara is most popular today in its various forms.

Most women form an affinity for a particular brand of mascara, and continue to use it due to personal preference. Since most of today's women are more active than their counterparts fifty years ago, women of today often desire mascaras with waterproofing capabilities, particularly during rainy weather, exercise sessions, etc. However, waterproof mascaras are generally not as popular because they color rather than thicken the lashes and are difficult to remove. Rather than owning two separate mascaras, one waterproof, one not waterproof, it is much more convenient to have a specific mascara waterproofing composition which can be applied over a woman's normal mascara during the times when waterproofing of mascara is desired. A mascara user is thus free to continue using her favorite mascara, and may waterproof it when desired. Even more desirable is a composition which not only waterproofs mascara, but assists in improving the wear of

-2-

normal mascara by making it smudgeproof, smearproof, and flakeproof.

In addition, women often wear face make-up which is susceptible to streaking or washing off in rainy weather. A waterproofing composition which could counteract the effects of weather and rain would be very desirable to keep make-up in place.

#### Summary of the Invention

The invention is directed to a cosmetic waterproofing composition comprising:

- a) about 5 - 85% of a volatile mineral spirit,
- b) about 0.7 - 2.1% gellant,
- c) about 1 - 50% of a primary film former, and
- d) about 5 - 25% of a solvent oil.

The invention is also directed to a method for waterproofing skin, hair or eyelashes using the composition of the invention.

#### Detailed Description

The composition of the invention provides a waterproof coating to skin, hair or eyelashes when worn over the normal make-up. For example, if the composition is used to waterproof eyelashes it is worn over normal mascara. The composition also enhances wear by making the underlying mascara more smudgeproof, flakeproof, and smearproof.

The first essential constituent of the waterproofing composition of the invention is a volatile mineral spirit. This term means, in accordance with the instant invention, a volatile substance which provides thinning properties such as C<sub>9</sub>-12 isoparaffin, isododecane, or cyclomethicones. When referring to C<sub>9</sub>-12 isoparaffin, the C<sub>9</sub>-12 designation means that the carbon chains in the isoparaffin molecule range from nine to twelve carbon atoms. The isoparaffins, isododecane, or cyclomethicones are available from a number of commercial sources.

-3-

The next essential constituent is a gellant or viscosity enhancer or thickener. Suitable gellants include quaternium 18 hectorite (bentone), stearalkonium hectorite, C<sub>18-36</sub> acids, C<sub>18-36</sub> acid glycol esters, triglycerides, glyceryl tribehenate, glyceryl tribehenate/calcium behenate, aluminum stearate, trihydroxystearin, aluminum magnesium hydroxy stearate, or aluminum distearate. Preferred as the gellant is mixture of approximately 1 - 2% bentone.

The next essential constituent of the composition is a primary film former. The term primary film former, when used in accordance with this invention, means ingredients such as ethylene vinyl acetate (EVA), various polyethylenes with film-forming properties, synthetic or natural waxes, and so on.

The final essential constituent of the composition is one or more solvent oils including but not limited to mineral oils, isostearyl alcohol cetyl octanoate, tricetyl citrate, squalane, natural or synthetic oils or esters, or any other oils usually used in cosmetic compositions.

The composition may additionally contain preservatives such as propylparaben, methylparaben, diazolidinyl urea, trisodium EDTA, etc. Other additional nonessential constituents include small amounts of pigment to provide a more pleasant color or finish.

More preferably the composition of the invention contains one or more colorants and a preservative.

The invention is also directed to a method for waterproofing skin, hair or eyelashes. In the case of waterproofing eyelashes, the composition of the invention makes mascaraed eyelashes waterproof, smudgeproof, flakeproof, and smearproof comprising applying the composition of the invention to the eyelashes over the coat of mascara. The composition of the invention is applied to the eyelashes after the mascara is thoroughly dry. The brush containing the composition of the invention is stroked over the upper and lower lashes.

-4-

The composition of the invention may also be used to waterproof the face and eyes if desired. A small quantity of the composition is lightly applied onto the face or eyes over make-up and allowed to dry. The result is a waterproof finish on skin.

The composition of the invention may be stored in a variety of vehicles, but in the case of eyelash waterproofing compositions the most preferred container is a mascara-type tube with a cover containing a brush so that when the cover is removed the brush is extracted from the composition.

The invention will be further described in connection with the following Examples which are set forth for the purposes of illustration only.

#### Example 1

Lash coating compositions were formulated as follows:

	<u>weight %</u>		
Cg-12 isoparaffin	83.565	55.23	6.70
Bentone	0.70	1.40	2.10
Isostearyl alcohol	5.00	14.00	25.00
A-C polyethylene 400*	8.20	23.00	41.00
A-C polyethylene 430*	1.80	5.00	9.00
Methyl paraben	0.20	0.20	0.20
Propyl paraben	0.10	0.10	0.10
Trisodium EDTA	0.05	0.05	0.05
Diazolidinyl urea	0.15	0.15	0.15
Iron oxide	-	0.40	15.00
Propylene carbonate	0.235	0.47	0.70

\*Allied Chemical Corporation

The isoparaffin was combined with the isostearyl alcohol and heated to 85° - 87°C. When this temperature was reached the A-C polyethylene 400 and A-C polyethylene 430 were added and mixed at moderate speed. The mixing was continued until all the polyethylenes were melted and the batch was clear and

-5-

uniform. The preservatives were added and mixing continued. Color may be added here if desired. The batch was then cooled to 30°C, and the mixing adjusted to minimize air entrapment. The batch was then poured into individual suitable storage containers.

#### Example 2

The composition of the invention was tested as an eyelash waterproofer on 100% human hair fashion lashes as follows:

Sample 1: Max Factor "For Your Eyes" non-waterproof mascara was applied in a standard manner to the lashes.

Sample 2: The eyelashes of Sample 1 were additionally coated with the waterproofing composition of the invention.

Sample 3: Max Factor's "Splish Splash" waterproof mascara was applied to lashes as a control.

The lash samples were placed over clean sheets of white paper and sprayed with a fine mist of tap water until saturated. The lashes were swirled in the pool of water while gently touching the paper to show mascara removal.

After visual assessment, Sample 1 showed a large removal of mascara with the water treatment. Sample 2 showed minimal removal. Sample 3, the control waterproof mascara showed minimal mascara removal.

#### Example 3

The waterproofing composition of the invention was tested for its ability to waterproof a non-waterproof make-up composition.

One patch of Max Factor Waterproof Cream Make-up and 2 patches of Max Factor Whipped Cream Fluid Make-up (non-waterproof) were applied on an arm and allowed to dry for approximately 2 hours. The waterproofing composition of the invention was then applied over the patch of Max Factor Whipped Cream Fluid Make-up and allowed to dry. The arm was

-6-

then placed under running water for approximately 5 minutes. The arm was patted dry to the touch.

RESULTS: The untreated non-waterproof make-up left a light colored mark on the arm and considerable residue on the paper towel. The waterproof make-up patch retained its color and size and left only a trace of residue on the paper towel. The Whipped Cream Fluid Make-up patch covered by the waterproofing composition of the invention did not show any change in color or size of the patch and left only a trace of material on a paper towel.

CONCLUSION: The waterproofing composition of the invention makes a non-waterproof make-up composition waterproof.

While the invention has been described in connection with the preferred embodiment, it is not intended to limit the scope of the invention to the particular form set forth, but, on the contrary, it is intended to cover such alternatives, modifications, and equivalent as may be included within the spirit and scope of the invention as defined by the appended claims.



-7-

## WHAT IS CLAIMED IS:

1. A waterproofing composition comprising:
  - a) about 5 - 85% of a volatile mineral spirit,
  - b) about 0.7 - 2.1% gellant,
  - c) about 1 - 50% of a primary film former; and
  - d) about 5 - 25% of a solvent oil.
2. The composition of Claim 1 wherein the volatile mineral spirit is C<sub>9-12</sub> isoparaffin, cyclomethicone, isododecane or mixtures thereof.
3. The composition of claim 2 wherein the gellant is quaternium 18 hectorite (bentone), stearalkonium hectorite, C<sub>18-36</sub> acids, C<sub>18-36</sub> acid glycol esters, triglycerides, glyceryl tribehenate, glyceryl tribehenate/calcium behenate, aluminum stearate, trihydroxystearin, aluminum magnesium hydroxy stearate, aluminum distearate or mixtures thereof..
4. The composition of claim 3 wherein the primary film former is ethylene vinyl acetate (EVA), a polyethylene with film-forming properties, a synthetic wax or mixtures thereof.
5. The composition of claim 4 wherein the solvent oil is mineral oil, isostearyl alcohol, cetyl octanoate, tricetyl citrate, squalane, natural oil, synthetic oil, ester, or mixtures thereof.
6. The composition of claim 5 wherein the volatile mineral spirit is C<sub>9-12</sub> isoparaffin.
7. The composition of claim 6 wherein the gellant is bentone.

-8-

8. The composition of claim 7 wherein the primary film former is polyethylene.

9. The composition of claim 8 wherein the solvent oil is isostearyl alcohol.

10. The composition of claim 9 additionally comprising one or more colorants or preservatives.

11. The composition of claim 10 additionally comprising methyl paraben, propyl paraben, trisodium EDTA, diazolidinyl urea, or mixtures thereof.

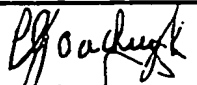
12. A method for waterproofing a non-waterproof cosmetic composition applied to eyelashes, skin, or hair comprising applying to the cosmetic treated eyelashes, skin, or hair, a cosmetic composition comprising:

- a) about 5 - 85% of a volatile mineral spirit,
- b) about 0.7 - 2.1% gellant,
- c) about 1 - 50% of a primary film former; and
- d) about 5 - 25% of a solvent oil.

13. A mascara composition comprising:

- a) about 5 - 85% of a volatile mineral spirit,
- b) about 0.7 - 2.1% gellant,
- c) about 1 - 50% of a primary film former; and
- d) about 5 - 25% of a solvent oil;

which composition is stored in a mascara tube with a cover, the cover containing a brush which is immersed in the composition when the cover is closed.

<b>I. CLASSIFICATION OF SUBJECT MATTER</b> (If several classification symbols apply, indicate all) <sup>6</sup>		
According to International Patent Classification (IPC) or to both National Classification and IPC Int.Cl. 5 A61K7/032		
<b>II. FIELDS SEARCHED</b>		
Minimum Documentation Searched <sup>7</sup>		
Classification System	Classification Symbols	
Int.Cl. 5	A61K	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched <sup>8</sup>		
<b>III. DOCUMENTS CONSIDERED TO BE RELEVANT<sup>9</sup></b>		
Category <sup>10</sup>	Citation of Document, <sup>11</sup> with indication, where appropriate, of the relevant passages <sup>12</sup>	Relevant to Claim No. <sup>13</sup>
X	US,A,4 431 673 (GOLDNER ET AL.) 14 February 1984 see the whole document ---	1-7, 12
P,A	WO,A,9 112 793 (L,OREAL) 5 September 1991 see the whole document ---	1,2,4-6, 12
A	GB,A,2 124 081 (REVLON INC.) 15 February 1984 see the whole document ---	1-4,6,7, 12,13
A	EP,A,0 133 964 (REVLON INC.) 13 March 1985 see examples ---	1-3,5,12
A	EP,A,0 271 925 (REVLON INC.) 22 June 1988 see example 1 ---	1-3,6,7, 10-12
<p>* Special categories of cited documents :<sup>10</sup></p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"A" document member of the same patent family</p>		
<b>IV. CERTIFICATION</b>		
Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report	
28 AUGUST 1992	21. 09. 92	
International Searching Authority	Signature of Authorized Officer	
EUR PEAN PATENT OFFICE	COUCKUYT P.J.R. 	

**ANNEX TO THE INTERNATIONAL SEARCH REPORT  
ON INTERNATIONAL PATENT APPLICATION NO.**

US 9202964  
SA 61143

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information. 28/08/92

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A-4431673	14-02-84	None	
WO-A-9112793	05-09-91	FR-A- 2659011 AU-A- 7452491 EP-A- 0471054	06-09-91 18-09-91 19-02-92
GB-A-2124081	15-02-84	CA-A- 1204061	06-05-86
EP-A-0133964	13-03-85	US-A- 4574082 CA-A- 1231055 JP-A- 60056914	04-03-86 05-01-88 02-04-85
EP-A-0271925	22-06-88	AU-B- 601250 AU-A- 8302187 JP-A- 63215615 ZA-A- 8709526	06-09-90 23-06-88 08-09-88 15-06-88

EPO FORM P079

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82